

### **Remarks**

Claims 4, 5, 24 and 25 are pending.

Claims 1-3, 5, 6-23 and 26 are canceled.

Claims 4, 24 and 25 are currently amended.

Claim 27 is new. Support for claim 27 is in the specification at page 61, lines 1-2 and 17-21.

### **Specification**

The Examiner objects to disclosure because the section titled "Cross references to Related Applications" does not contain the information that parental application 09/800,130 has issued as a U.S. Patent. In response, Applicants amend the specification to disclose that application Serial No. 09/800,130 issued as U.S. Pat. No. 6,803,501

### **Claim Objections**

The Examiner objects to claim 5 because "A DNA" should read "The DNA" as this claim is dependent on claim 4. Applicants cancel claim 5. Thus this objection is rendered moot.

### **Double Patenting**

The Examiner rejects claims 4 and 5 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,803,501 B2. In response, Applicants herewith submit a Terminal Disclaimer to obviate the rejection.

**Claim Rejections - 35 U.S.C. § 112 first paragraph (Written Description)**

The Examiner rejects claims 4, 5, 24 and 25 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner states that Applicants describe only one naturally occurring mutant DNA isolated from an *Eleusine* sp. encoding a glyphosate resistant EPSPS enzyme, and that Applicants do not describe the promoter region or the chloroplast transit peptide coding region of the exemplified *Eleusine indica* isolated DNA.

In response, Applicants amend claim 4 to include the limitations “*Eleusine* sp.” and the glycine to alanine 102 and threonine to isoleucine 103 substitutions that have written support in SEQ ID NO. 7. Applicants cancel claim 5. In addition, Applicants amend claims 24 and 25 to pertain to promoters and chloroplast transit peptide sequences located 5’ of a DNA sequence that encodes an EPSPS enzyme comprising SEQ ID NO. 7. Applicants respectfully point out to the Examiner that Applicants do indeed describe the promoter of the DNA sequence encoding *Eleusine* sp. glyphosate resistant EPSPS enzyme. At page 61 of the specification, Applicants disclose that 5’ regulatory sequences (including the promoter) is isolated from a genomic library of an *Eleusine* sp. using the disclosed nucleotide sequence of SEQ ID NO. 4 (see specifically lines 20-21). Regarding the chloroplast transit peptide, Applicants disclose that the translation initiation codon is determined for the *E. indica* EPSPS synthase gene by inspection, of the 5’ regions 63 codons upstream of the mature protein, based on comparison to the maize EPSPS gene which is known to those skilled in the art (see specification page 62, lines 14-24 and page 63, lines 1-4). According to MPEP2163.02, compliance with the written description requirement and “possession [of the invention] may be shown in a variety of ways including...describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.” In this case, even though Applicants did not disclose the nucleotide

sequence of the 5' regulatory region, or the sequence encoding the chloroplast transit peptide, they described them in a sufficient way so as to convey to a person skilled in the art that Applicants was in possession of the 5' regulatory sequence and the sequence encoding the chloroplast transit peptide of the *Eleusine indica* EPSPS gene. In view of the above amendments, Applicants respectfully request withdrawal of the rejection of claims 4, 5, 24 and 26 under 35 U.S.C. §112, first paragraph, written description.

**Claim Rejections - 35 U.S.C. § 112 first paragraph (Enablement)**

The Examiner rejects claims 4 and 5 under 35 U.S.C. §112, first paragraph as failing to comply with the enablement requirement. According to the Examiner, the specification does not reasonably provide enablement for any isolated DNA molecule that encodes any naturally occurring glyphosate resistant plant-derived EPSPS enzyme, wherein the glyphosate resistant enzyme has a  $K_m$  for PEP of less than 10  $\mu M$  and is modified by any substitution or deletion in the catalytic domain. In response, Applicants cancel claim 5 and amend claim 4 to pertain to *Eleusine* sp. and to a substitution pertaining to glycine to alanine 102 and threonine to isoleucine 103 corresponding to SEQ ID No. 7. Applicants do enable a person skilled in the art to obtain any mutant EPSPS enzyme from any *Eleusine* species by using SEQ ID NO. 6 as a probe to identify other like DNA molecules by standard methods that are routine molecular biology techniques (see specification, page 37, lines 11-12).

The Examiner also rejects claims 24 and 25 under 35 U.S.C. §112, first paragraph as failing to comply with the enablement requirement. Applicants respectfully disagree. Applicants teach a person skilled in the art how to obtain the 5' regulatory sequence and the sequence encoding the chloroplast transit peptide of the *Eleusine indica* EPSPS gene without

undue experimentation. At page 61 of the specification, Applicants describe how 5' regulatory sequences (including the promoter) can be isolated from a genomic library of an *Eleusine* sp. using the disclosed nucleotide sequence of SEQ ID NO. 4 (see specifically lines 20-21). Regarding the chloroplast transit peptide, Applicants describe that the translation initiation codon is determined for the *E. indica* EPSPS synthase gene by inspection, of the 5' regions 63 codons upstream of the mature protein, based on comparison to the maize EPSPS gene which is known to those skilled in the art (see specification page 62, lines 14-24 and page 63, lines 1-4). These teachings are within the expertise of a person skilled in the art of molecular biology and do not require undue experimentation.

**Claim Rejections - 35 U.S.C. § 112 second paragraph (Indefinite)**

The Examiner rejects claim 5 under 35 U.S.C. §112, second paragraph as being indefinite. According to the Examiner, the metes and bounds of the claim are unclear because positions 102 and 103 are relative to SEQ ID NO. 7, and other EPSPS enzymes may or may not have a glycine or a threonine at positions 102 or 103 respectively. Applicants cancel claim 5. Thus this rejection is rendered moot.

**Claim Rejections - 35 U.S.C. § 102(e)**

The Examiner rejects claims 4 and 5 under 35 U.S.C. § 102(e) as being anticipated by Lebrun *et al.* (US Patent No. 6,566,587, effective US filing date of 20 January 1998). According to the Examiner, Lebrun *et al.* disclose a modified DNA molecule encoding a glyphosate resistant EPSPS enzyme having a proline to serine substitution at position 107 and a threonine to isoleucine substitution at position 103 relative to Applicant's SEQ ID NO:7. Applicants amend

claim 4 to pertain to *Eleusine* sp. and cancel claim 5. Applicants respectfully request that the rejection of claims 4 and 5 under 35 U.S.C. § 102(e) be withdrawn.

No fees are believed to be due in connection with the filing of this Response to Office Action. However, should any fees under 37 C.F.R. §§ 1.16-1.21 be deemed necessary for any reason relating to this document, the Commissioner is hereby authorized to deduct the fees from Howrey LLP Deposit Account 08-3038/11898.0019.DVUS02.

Respectfully submitted,



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Date: June 26, 2006